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Nicholas James Parkinson

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EXAMINER

LE, QUANG V

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,349	<b>Applicant(s)</b> PARKINSON ET AL.	
	<b>Examiner</b> QUANG V. LE	<b>Art Unit</b> 2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office Action is in response to the amendment filed on 11/16/2010.

**Claims 1-11 and 13-17** have been examined and are pending. This action is made **Non Final**.

### ***Response to Arguments***

2. Applicant's arguments see pages 5-11, filed 11/16/2010, with respect to the rejections of claims 1-11 and 13-14 under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is set forth below.

3. The following changes to the claims are acknowledged:

**Claim 13 was amended** by the applicant.

**Claims 15-17 were newly added** by the applicant.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**4. Claims 1, 3, 5-10 and 13-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon US 5,818,897, in view of Barrows, US 6,020,953.

**As per claim 1**, Gordon teaches an image processing system including a plurality of linear arrays of detectors imaged onto a scene of interest and an image store for receiving signals from the linear array when a detected object passes through the scene (figure 3, col 8, lines 37-67 to col 9, lines 1-11);

wherein the plurality of linear arrays of detectors are spaced substantially parallel to one another to image a plurality of areas of interest in a scene (figure 4, col 9, lines 12-27); and

Gordon discloses a scanner system that use a series of linear detector array to detect suspected baggage on a moving conveyor belt. Although the detection system is taking the speed and direction of the conveyor belt into consideration, it does not explicitly disclose that the system can be used to determine direction and speed of the baggage movement.

However, Barrows teaches a tracking linear optic flow sensor that measures motion by tracking the movement of a feature across the visual field (abstract). Barrows system also uses an array of photo receptors to perform speed measurement and direction measurement of a texture for optical flow computation (col 4, lines 49-67).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the speed and direction measurement as taught by

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Barrow into Gordon's scanner system so that the system can detect if a piece of baggage is moving with respect to the conveyor belt. i.e. the baggage is slipping or rolling on the conveyor belt. Such speed and direction detection can be used to compensate for movement of the baggage on the conveyor belt so there will be no error in the scanning signals.

**As per claim 3**, Gordon in view of Barrows teaches the system of claim 1 Barrow further discloses wherein the detectors are visible light sensitive detectors (col 1, lines 20-23).

**As per claim 5**, Gordon in view of Barrows teaches the system of claim 1, Barrow further discloses wherein each detector element in each linear array has associated therewith an independent noise limiting means (figure 16 and col 18, lines 22-37).

**As per claim 6**, Gordon in view of Barrows teaches the system of claim 5 Barrow further discloses wherein the noise limiting means at each detector element comprises an independent amplifier and filter (figure 18 and col 22, lines 14-28).

**As per claim 7**, Gordon in view of Barrows teaches the system of claim 1 Barrow further discloses wherein each detector array has its output read out sequentially from each detector element (figure 8b, col 8, lines 47-67 to col 9, lines 1-31).

**As per claim 8**, Gordon in view of Barrows teaches the system of claim 1, Barrow further discloses wherein the processor is arranged to determine at least one of detected object range (col 6, lines 16-21), direction of movement (col 4, lines 49-67), speed (col 4, lines 49-67), true direction of travel (col 4, lines 49-67), object type.

**As per claim 9**, Gordon in view of Barrows teaches the system of claim 1, Barrow further discloses the system including an additional two-dimensional detector array system which may be switched on when an object is detected (col 5, lines 25-29).

**As per claim 10**, Gordon in view of Barrows teaches the system of claim 1, Barrow further discloses wherein several systems are combined into a single unit arranged to give about 360° of azimuthal coverage (col 16, lines 39-53).

**As per claim 13**, Gordon in view of Barrows teaches the system of claim 1, Gordon further discloses wherein the linear arrays of detectors are arranged to sequentially image the detected object in said plurality of areas of interest as said detected object passes through the scene (figure 3A-C, col 7, lines 21-67 to col 8, lines 1-2).

**As per claim 14**, Gordon in view of Barrows teaches the system of claim 1, Barrows further discloses wherein the linear arrays are disposed such that as the detected object passes through the scene a component of movement thereof is

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substantially orthogonal to an alignment direction of said arrays (figure 1 and col 6, lines 10-35). *Any objects that move on a non parallel path with the alignment of the sensor will have a component vector that is orthogonal (perpendicular) to that alignment direction of the sensors. In Barrow's tracking system, the subject sometime travels in a direction not parallel to the direction of sensors.*

**As per claim 15**, Gordon in view of Barrows teaches the system of claim 1, Gordon further discloses wherein the detected object is imaged consecutively by each of the plurality of linear arrays of detectors as said detected object passes through the scene (col 16, lines 66-68 to col 17, lines 1-4). *The scanner continuously scanning bags in order of 250 to 300 bags per hours without the need for operator, indicates the object (bags) are imaged consecutively as they passes through the scene as cited in the claim.*

**As per claim 16**, this claim is rejected because it recites the subject matters that were previously discussed in claim 1, additionally, Gordon's linear detector array **130** are not one or more video cameras (col 8, lines 37-45).

**As per claim 17**, this claim is rejected because it recites the subject matters that were previously discussed in claim 1, additionally, Barrow teaches wherein the linear arrays of detectors are arranged so that the detected object is not imaged simultaneously by each of the plurality of linear arrays of detectors as said detected

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object passes through the scene (figure 10 and col 12, lines 23-65). *The fact that there is a time delay between photoreceptors 261L and 261R, this implies that the detectors do not take the image of the object simultaneously when the object passed through the scene as cited in the claim.*

**5. Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon in view of Barrows as applied to claim 1 above, further in view of Douglas Burgess, UK Patent Application, GB 2154388.

**Regarding claim 2**, Gordon in view of Barrows teaches the system of claim 1, it does not teaches the detectors are infra red detectors.

However, Burgess teaches an image processing system that use single linear array sensors to detect a presence of a vehicle in the scene that uses infra red detector (col 1, lines 51-52).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate the infra red detector as taught by Burgess into Gordon in view of Barrows scanner system in order to enhance the detection of the system (Burgess: col 1, lines 55-56)

**Regarding claim 4**, Gordon in view of Barrows teaches the system of claim 1, it does not teach wherein the detectors are mm wave detectors.



However, Burgess teaches an image processing system that use single linear array sensors to detect a presence of a vehicle in the scene that uses small wavelength radar detector (Col 1, lines 57-59).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate the small wavelength detector as taught by Burgess into Gordon in view of Barrows scanner system in order to enhance the detection of the system (Burgess: col 1, lines 55-56).

**6. Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon in view of Barrows as applied to claim 1 above, further in view of Martin, US Patent No. 6,243,131.

**Regarding claim 11**, Gordon in view of Barrows teaches the system of claim 1, but it fails to teach wherein outputs from the signal processor are communicated to remote monitoring stations.

However, in an analogous art, Martin teaches a method of using an array of sensor to capture an image of an object, and then send it to display on remote stations (col 6, line 34-37).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate Martin method of communicating with remote stations into Gordon in view of Barrows scanning system so as to provide a network of detection system that can communicate and share detection information. Such system will benefit large scale scanning system for large airport.

### ***Examiner's Note***

The Examiner cites particular figures, paragraphs, columns and line numbers in the reference(s), as applied to the claims above. Although the particular citations are representative teachings and are applied to specific limitations within the claims, other passages, internally cited references, and figures may also apply. In preparing a response, it is respectfully requested that the Applicant fully consider the references, in their entirety, as potentially disclosing or teaching all or part of the claimed invention, as well as fully consider the context of the passage as taught by the reference(s) or as disclosed by the Examiner.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang V. Le whose telephone number is (571) 270-5014. The examiner can normally be reached on Monday through Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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